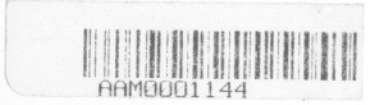
A1230™ TURBO+



User's Guide

GVP

A1230™ TURBO+

Installation Guide

Contents

FCC Radio Frequency Emissions Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

CAUTION: Only equipment with shield-grounded cables (computer input-output devices, terminals, printers,etc.), certified to comply with Class B limits, can be attached to this device. Operations with non-certified equipment may result in communications interference.

Your house AC wall receptacle must be a three-pronged type (AC ground). If not, contact an electrician to install the proper receptacle. If a multi-connector box is used to connect the computer and peripherals to AC, the ground must be common to all units.

If necessary, contact your dealer or an experienced radio-TV technician for additional suggestions. You may find the following FCC booklet helpful: "How to Identify and Resolve Radio-TV Interference Problems." The booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, stock no. 004-000-00345-4.

1. Getting Started

Overview

Thank you for purchasing GVP's **A1230 Turbo+** accelerator. The A1230 Turbo+ adds even more power to your Amiga A1200 computer with:

- A 68EC030 microprocessor with 40Mhz clock speed for fast performance.
- Up to 32 megabytes of 32 bit wide, 60 nanosecond memory.
- A socket for an optional math coprocessor (FPU).
- GVP's exclusive Kickstart remapping technology, allowing the ROM code to be moved to the on-board memory of the A1230 Turbo+ for even faster performance.
- Custom designed circuitry for quality and low component count.
- Surface mount technology for reliability.
- "Plug and play" design—gets you up and running in minutes.

Installing Hardware

This section describes how to install the A1230 Turbo+ in your A1200 computer. If you purchased and wish to install the optional **FPU (math coprocessor)** or **additional memory**, please refer to Chapter 3, ***Options***, before installing the A1230 Turbo+.

Before attempting this procedure, read the following directions completely. If you feel unsure about performing any of them, have a dealer do the installation for you.

IMPORTANT!!

During the installation of the A1230 Turbo+ and its optional accessories be sure to observe electrostatic safety procedures. Electrostatic shock can damage delicate electronic components, such as those found on the A1230 Turbo+. To protect against this, periodically drain electrostatic potential from your body by touching a grounded metal surface.

Before beginning, remove all peripheral cables and the power cord from your A1200.

1. Turn the A1200 over. To protect the keyboard and finish of your computer, lay it on a towel or other soft surface.

2. Remove the trap-door cover by inserting a coin in the slot at one end, prying the cover up and swinging it away (see Figure 1.1).

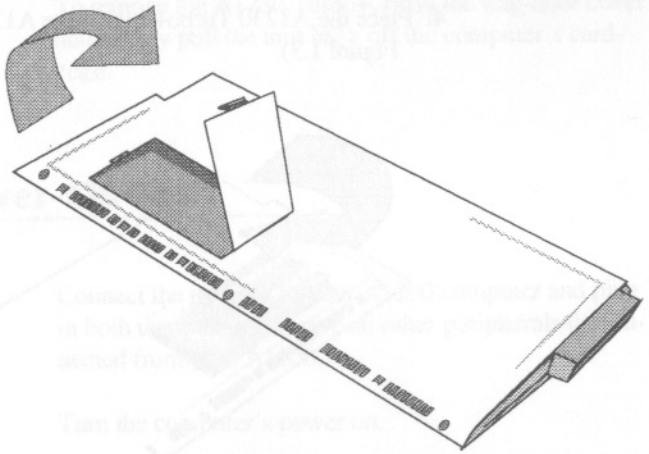


Figure 1.1 — Removing the trap-door cover

3. Flip the A1230 Turbo+ over so the component side of the board is facing away from you, and into the computer (see Figure 1.2).

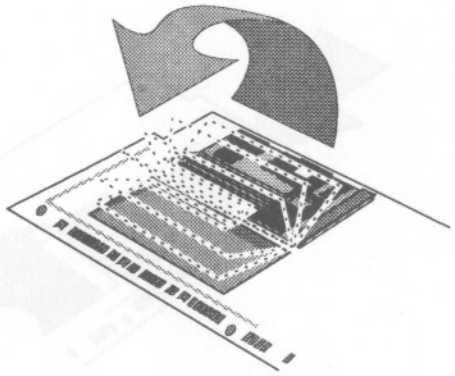


Figure 1.2 — Flipping the A1230 over

4. Place the A1230 Turbo+ inside the A1200 (see Figure 1.3).

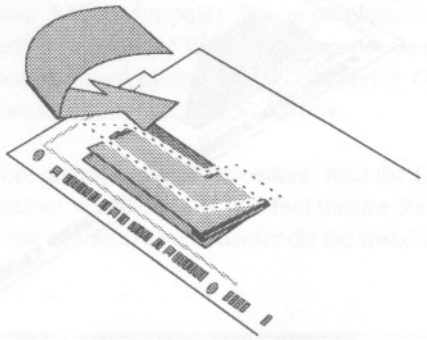


Figure 1.3 — Placement of the A1230

5. Align the connector of the A1230 Turbo+ with the card-edge in the A1200. Using the finger cut-out on the end of the board, apply pressure until the board seats on the card-edge completely (Figure 1.4).

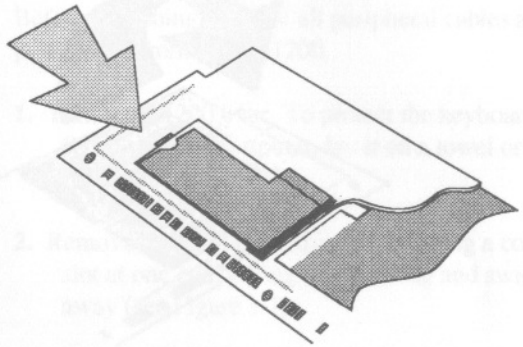


Figure 1.4 — Inserting the A1230

6. Snap the trap-door cover back on.

To remove the A1230 Turbo+, open the trap-door cover and simply pull the unit back off the computer's card-edge.

Power-On Test

Connect the monitor to your A1200 computer and plug in both components. Leave all other peripherals disconnected from your A1200.

Turn the computer's power on.

If the power light does not come on, or the A1200 fails to start normally, TURN THE POWER OFF IMMEDIATELY. Recheck the connections you made while installing the A1230 Turbo+.

If you still have problems at this point, call your dealer or GVP's Technical Support Hotline (see Appendix B, ***Service & Support***).

2. Utility Software

Installation

The A1230 Turbo+ comes with several useful **utility** programs:

GVPCpuCtrl allows you to control certain performance aspects of the A1230 Turbo+.

MemTest tests the memory on the A1230 Turbo+.

GVPInfo reports information on many different aspects of your computer, including the A1230 Turbo+.

To install this software on your computer, start your computer normally and insert the **GVP.Install** disk in the A1200's floppy drive. **Double-click** on the disk icon that appears on the WorkBench. Then, double-click on the Install-A1230 Turbo+ icon. The installer program will copy the appropriate files to their proper locations, and configure the software for your system.

Software Reference

- **GVPCpuCtrl**

GVPCpuCtrl is a **CLI** program; its format is

```
GVPCpuCtrl [[no]fastrom]
```

When the argument '**fastrom**' is used, the A1200's **ROM** code will be copied into the 32-bit memory of the A1230 Turbo+, and the system vectors will be adjusted to point to this copy. The A1230's memory can be accessed much faster than the ROM chips on the A1200, so your computer will run faster. It uses 512k (half a megabyte) of available memory, which won't be available for normal use.

NOTE >>> The Installer program may have already set up the **fastrom** option so it runs every time you start your computer (if you approved this setup during installation). This feature can be disabled by typing

```
GVPCpuCtrl nofastrom <Return>
```

When you issue the command with no options, **GVPCpuCtrl** reports on whether the fastROM feature is currently enabled.

- **MemTest**

MemTest is a Workbench program; double-click on its icon to test all the memory in your A1200. A status window will list each segment of memory as it's being tested.

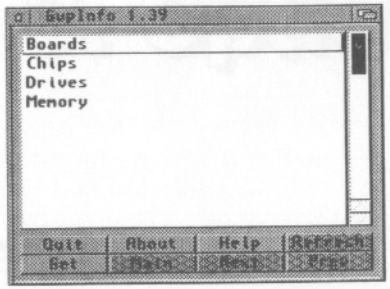


Figure 2.1 — The GVPInfo main window

- **GVPInfo**

GVPInfo is a WorkBench program that allows you to examine characteristics of your system.

In the main window, you'll see listed **Boards**, **Chips**, **Drives** and **Memory** (see Figure 2.1). Clicking twice on any of these items (or clicking on **Get**) will produce a new window displaying relevant information about the item selected. Each item in the new list can, in turn, be double-clicked to produce still more information about the selected items.

GVPInfo has a special option for CLI use. When launched from Shell or CLI by typing

```
GVPInfo SPEED <Return>
```

the **SPEED** option will run a performance test on your main processor chips and display the results.

3. Options

Adding Memory

The A1230 Turbo+ can support up to 32 megabytes of memory by purchasing extra Single Inline Memory Modules (**SIMMs**) and adding them to the board. To install or remove a RAM SIMM, place the A1230 Turbo+ on a static-free surface, such as the bag that it was shipped in.

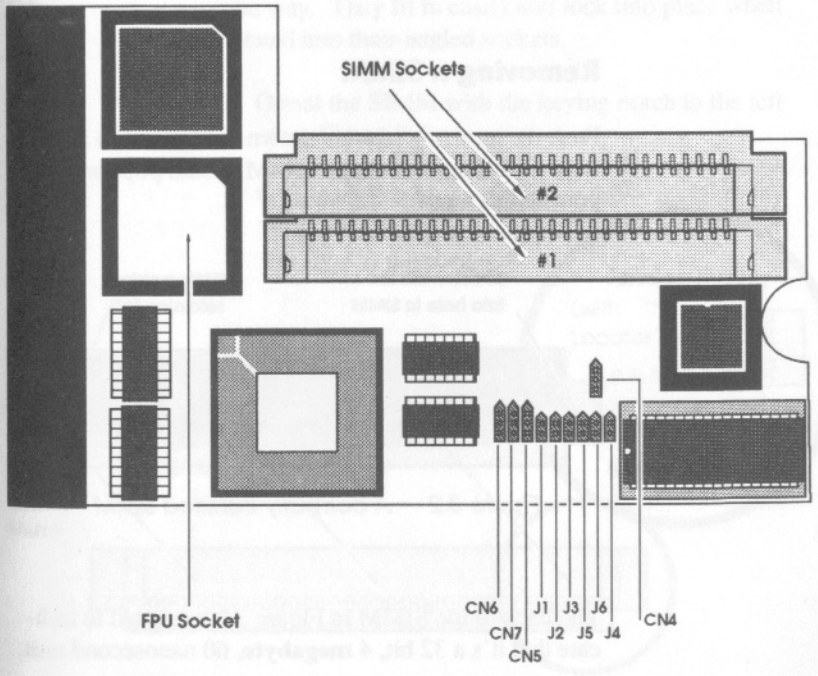


Figure 3.1 — Layout of The A1230 Turbo+ board

A SIMM is a convenient, rugged and relatively reliable way of packaging memory. A GVP **SIMM32** consists of memory chips mounted on a small circuit board. All of the connection points for the memory chips are arranged along one edge of the SIMM board and mate with the contacts of the **SIMM socket** on the A1230 Turbo+ circuit board.

NOTE >>> The A1230 Turbo+ can use GVP's 1MB, 4MB or 16MB (**meg**abyte) SIMM32 modules in any combination, as long as the SIMM with the highest memory capacity is always placed in SIMM Socket #1 (see Figure 3.1).

Because of this, you may need to find out the capacity of the currently installed SIMM. They're labeled on the back, so you'll need to remove them to check the size.

Removing a SIMM

Push the retaining tabs (as shown in Figure 3.2) aside with your thumbs, and the SIMM should pop forward so you can lift it out.

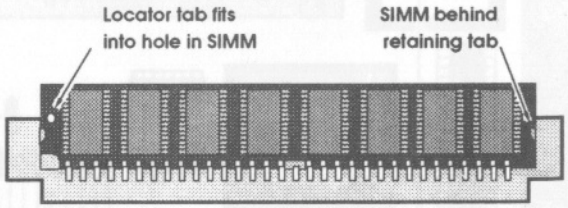


Figure 3.2 — A correctly installed SIMM

The back of the SIMM in Figure 3.3 is printed to indicate that it's a 32 bit, **4 megabyte**, 60 nanosecond unit.

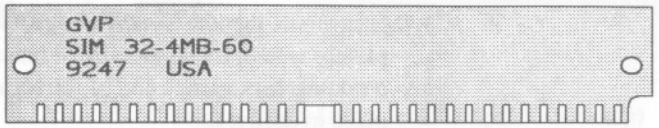


Figure 3.3 — The back of a GVP SIMM32 module

NOTE >>> If it's a 16 megabyte unit, there will be more chips mounted on the back, instead of printing.

Whichever SIMM is the larger capacity should go in socket #1.

Installing SIMMs

SIMMs are designed to fit into SIMM sockets in only one way. They fit in easily and lock into place when rotated into their angled sockets.

1. Orient the SIMM with the keying notch to the left (see Figure 3.4).
2. With the SIMM perpendicular to the A1230 board, insert its edge in the socket.

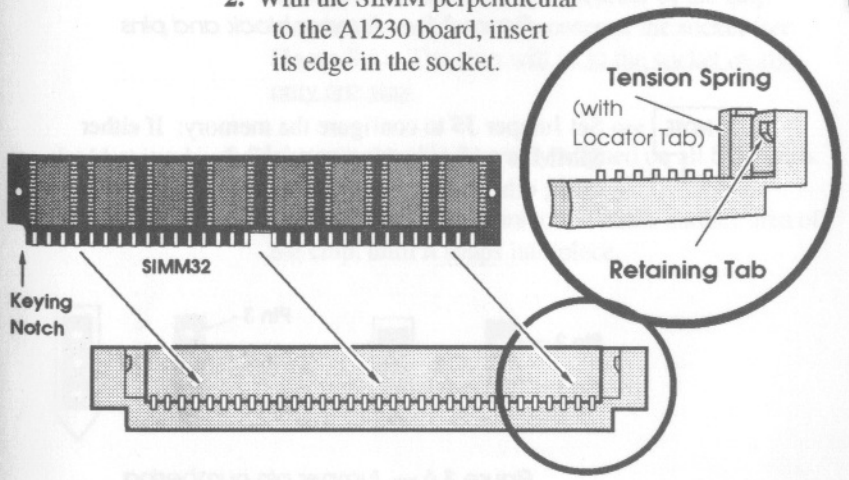


Figure 3.4 — How a SIMM socket works

3. Making sure that the SIMM's edge remains completely seated, rotate the SIMM backwards until the retaining bars at each end of the socket snap into place to hold it in.

Making Memory Work

Below the SIMM sockets on the A1230 Turbo+ are a set of upright metal pins, in groups of two and three called **jumpers** (see Figure 3.1 — they're labeled with '**J**' and '**CN**'). These are connection points for special circuits on the board, and are used to set various parameters for proper operation of the board. By pressing a **shorting block** onto a pair of pins, you're turning a parameter **ON**.

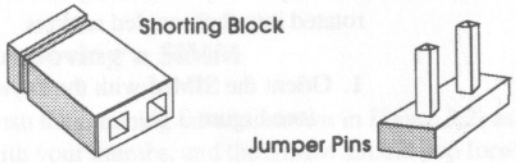


Figure 3.5 — Jumper block and pins

NOTE >>> Set Jumper **J5** to configure the memory: If either SIMM is a 16 megabyte unit, pull the shorting block **OFF**; otherwise leave it **ON**.

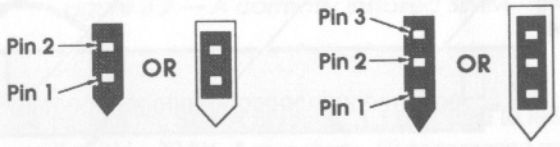


Figure 3.6 — Jumper pin numbering.

Adding An FPU

An **FPU** (**F**loating **P**oint **U**nit or math coprocessor chip) takes over the work of more complex mathematical calculations from the A1230 Turbo+'s main processor and can perform these calculations in a shorter amount of time. Adding an FPU to your A1230 Turbo+ will increase your system's performance significantly.

The correct FPU chip for the A1230 Turbo+ is the 68882. You will need a 68882 that is designed for a **PLCC socket** . GVP offers an Upgrade Kit with the proper FPU — please contact your dealer or GVP Customer Service for more information.

To install the FPU:

1. Place the A1230 Turbo+ on a static-free surface, such as the bag that it was shipped in.

3. Orient the FPU so that the writing on the chip faces upwards and the notch in the corner of the chip matches the notch in the corner of the socket (see Figure 3.1). The chip will fit in the socket easily only one way.

4. Make sure the chip is evenly aligned on all four sides.

5. Apply downward pressure to the entire surface area of the chip, until it snaps into place.

A. Jumper Settings

The following chart summarizes the jumpers on the A1230 Turbo+. Many of these jumpers are reserved by GVP for future enhancements of this product, and should NOT be changed from the settings given. GVP will not be responsible for any damage to this product caused by changing reserved jumper settings.

Refer to the jumper labels in Figure 3.1, and Figure 3.6.

JUMPER	ON	OFF
J1	68020 mode	**68030 mode**
J2	**reserved**	reserved
J3	reserved	**reserved**
J4	reserved	**reserved**
J5	**No 16M SIMMs present**	16M SIMM(s) present
J6	reserved	**reserved**

JUMPER	ON PINS 1 & 2	ON PINS 2 & 3
CN4	reserved	**reserved**
CN5	**4K refresh DRAM (16M)**	2K refresh DRAM (16M)
CN6	**reserved**	reserved
CN7	reserved	**reserved**

= Default setting

B. Service & Support

General Information

GVP supports hardware and software products through our network of authorized dealers. In most cases, your dealer may offer the fastest solution when equipment needs repair or replacement.

If necessary, you can get assistance from GVP's Technical Support department via fax, telephone or mail:

Fax (215) 337-9922 24 hours

Phone (215) 354-9495
10:30 a.m. — 6:00 p.m. EST Tues.
9:15 a.m. — 6:00 p.m. EST Mon., Wed., Thur., Fri.

Mail Great Valley Products, Inc.
600 Clark Ave.
King of Prussia, PA 19406

Reporting Problems

If possible, try to determine if the problem is repeatable (i.e., it occurs under predictable conditions), and be prepared to describe in detail the particular symptoms and the system configuration in use when it happens.

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